

1 CLAIMS LIST, Comprehensive

2 **(1) (previously amended, now, twice amended) a machine for measuring**
3 **angles about a plurality of axes of a single plane at a time, comprising:**

4 **one or more multi-axis, gravity-sensing, tilt sensor(s), or a plurality**
5 **of single-axis, gravity sensing tilt-sensor(s), situated about**
6 **different axes;**

7
8 **a computing device, preferably a microprocessor, that receives**
9 **inputs from the said tilt sensor(s), translates them into expressions**
10 **of angular measurement and outputs the results for display,**
11 **computation, or extraction; and**

12
13 **a unitary means of essentially rigidly mounting components,**
14 **said means comprising, but not limited to, a case or a frame.**

15
16 **(2) (previously amended, now, twice amended) A machine for measuring**
17 **angles about a plurality of axes of a single plane at a time, comprising:**

18 **one or more multi-axis, gravity-sensing, tilt sensor(s), or a plurality**
19 **of single-axis, gravity sensing tilt-sensor(s), situated about different**
20 **axes;**

21
22 **a computing device, preferably a microprocessor, that receives**
23 **inputs from the said tilt sensor(s), translates them into expressions**
24 **of angular measurement calculates compounded angles of the**
25 **various angles it measures and outputs the results for display,**
26 **computation, or extraction and;**

1 a unitary means of essentially rigidly mounting components, said
2 means comprising, but not limited to, a case or a frame.

3
4 (3) (previously amended, now, twice amended) A machine as in claims (1)
5 or (2) wherein a means of information extraction is incorporated, **wherein**
6 **the means may comprise, but are not limited to,** a communications
7 port or infra-red transmitter/receiver.

8
9 (4) (previously amended, now, twice amended) A machine as in claim (1)
10 or (2) that displays the results of the measurements and/or calculations in
11 **pictorial or graphic form.**

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13 (5) (previously amended, now canceled)

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15 (6) (previously amended, now canceled)

16
17 (7) (previously amended) A machine as in claim (4) wherein multiple
18 displays modes are controllable, being user selectable to exhibit
19 simultaneously or sequentially.

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21 (8) (previously amended, now twice amended) A machine as in claim (4)
22 wherein one or more **pictorial or graphic** displays resemble the form of a
23 bull's-eye bubble level.

24
25 (9) (previously amended, now twice amended) A machine as in claim (4)
26 wherein one or more **pictorial or graphic** displays resemble the form of a
27 curved-tube bubble level.

1
2 (10) (previously amended) A machine as in claim (4) wherein the displays
3 appear on different faces of the machine's case according to the axis
4 about which the measurements or calculations producing them are made.

5
6 (11) (previously amended) A machine as in claim (4) that, having
7 calculated a compound angle, can display a line representing the edge of
8 the plane in which that angle lies.

9
10 (12) (previously amended) A machine as in claim (1) or (2) that displays
11 the results of the measurements and/or calculations in numeric form.

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13 (13) (previously amended, now canceled)

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15 (14) (previously amended, now canceled)

16
17 (15) (previously amended) A machine as in claim (12) wherein multiple
18 displays modes are controllable, being user selectable to exhibit
19 simultaneously or sequentially.

20
21 (16) (previously amended) A machine as in claim (12) wherein the
22 displays appear on different faces of the machine's case according to the
23 axis about which the measurements or calculations producing them are
24 made.

25
26 (17) (previously amended) A machine as in claim (12) that, having
27 calculated a compound angle, can display a line representing the edge of
28 the plane in which that angle lies.

1 (18) (previously amended, now twice amended) A machine as in claim (1)
2 or (2) wherein the display format is user controllable, allowing selection of
3 either graphic or numeric format.

4

5 (19) (previously amended) A machine as in claim (18) wherein multiple
6 displays may be exhibited simultaneously.

7

8 (20) (previously amended) A machine as in claim (18) wherein multiple
9 displays may be exhibited sequentially.

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11 (21) (previously amended) A machine as in claim (18) wherein multiple
12 displays modes are controllable, being user selectable to exhibit
13 simultaneously or sequentially.

14

15 (22) (previously amended) A machine as in claim (18) wherein one or
16 more graphic displays resemble the form of a bull's-eye bubble level.

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18 (23) (previously amended) A machine as in claim (18) wherein one or
19 more graphic displays resemble the form of a curved-tube bubble level.

20

21 (24) (previously amended) A machine as in claim (18) wherein the
22 displays appear on different faces of the machine's case according to the
23 axis about which the measurements or calculations producing them are
24 made.

25

26 (25) (previously amended) A machine as in claim (18) that, having
27 calculated a compound angle, can display a line representing the edge of
28 the plane in which that angle lies.

1 (26) (previously amended) A machine as in claims (1) or (2) wherein
2 angles may be measured and/or calculated in multiple modes comprising
3 various levels of precision and of speed of measurement and/or
4 calculation.

5
6 (27) (previously amended) A machine as in claim (26) wherein the modes
7 of measurement and/or calculation may be selected automatically by the
8 machine itself.

9
10 (28) (previously amended) A machine as in claim (26) wherein the modes
11 of measurement and/or calculation may be manually selected by the user.

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13 (29) (previously amended, now canceled)

14
15 (30) (previously amended) A machine as in claims (1) or (2) wherein the
16 measurements and results of calculations may be recorded and later
17 displayed or output for reference.

18
19 (31) (previously amended) A machine as in claims (1) or (2) wherein the
20 computing component, preferably, a micro-processor, can automatically
21 select a display mode in accordance with the orientation of the device as
22 detected by the gravity sensing tilt sensor(s) or inertial accelerometers.

23
24 (32) (previously amended) A machine as in claim (1) or (2) wherein the
25 ambient temperature is measured and displayed for calibration purposes.

26
27 (33) (previously amended, now twice amended) A machine as in claim (1)
28 or (2) wherein a discrete signal, preferably, audio, visual, or electrical, is

1 emitted when the unit's measurements one or more pre-determined
2 angular position(s).

3
4 (34) (previously amended, now twice amended) A machine as in claim (1)
5 or (2) wherein an alarm signal is emitted that varies in accordance with the
6 machine's measurement's proximity to one or more pre-determined
7 angles;

8
9 (35) (previously amended) A machine as in claim (1) or (2) also
10 comprising a means of recording, or of storing in a memory, a baseline or
11 zero point for each axis from whence angles may be measured;

12
13 (36) (previously amended) A machine as in claim (1) or (2) wherein the
14 functions of angular measurement may be set to reset to zero at pre-
15 determined or user selected angles, presenting, at each applicable angle,
16 a display such as would be exhibited by a conventional bubble
17 inclinometer in the level position.

18
19 (37) A machine for measuring angles about one or more axes of a single
20 plane at a time, comprising:

21 one or more multi-axis, gravity-sensing, tilt sensor(s), or one or
22 more single-axis, gravity sensing tilt-sensor(s), situated about one
23 or more axes;

24
25 a microprocessor, that receives inputs from the said tilt sensor(s),
26 translates them into expressions of angular measurement and
27 outputs the results for display, computation, or extraction, and

1 computes and generates a simulated curved-tube, bubble-level
2 display; and

3
4 a unitary means of essentially rigidly mounting components, said
5 means comprising, but not limited to, a case or a frame.
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7 (38) A machine as is claim 37, wherein the one or more gravity-sensing tilt
8 sensor(s) comprise one or more sensors using liquid metal as gravity
9 sensing means.

10
11 (39) A machine for measuring angles about a plurality of axes of a single
12 plane at a time, comprising:

13 one or more multi-axis, gravity-sensing, tilt sensor(s), or one or more
14 single-axis, gravity sensing tilt-sensor(s), comprising one or more sensors
15 using liquid metal as gravity sensing means, situated about one or more
16 axes;

17
18 a microprocessor, that receives inputs from the said tilt sensor(s),
19 translates them into expressions of angular measurement and
20 outputs the results for display, computation, or extraction,

21
22 displays the results of the measurements and/or calculations in
23 pictorial or graphic form.

24
25 a unitary means of essentially rigidly mounting components, said
26 means comprising, but not limited to, a case or a frame.

1 (40) A machine as in claim (39) wherein the display comprises a
2 simulated curved-tube bubble-level.

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4 (41) A machine for measuring angles about a plurality of axes of a single
5 plane at a time, comprising:

6 one or more multi-axis, gravity-sensing, tilt sensor(s), or one or
7 more single-axis, gravity sensing tilt-sensor(s), comprising one or
8 more sensors using liquid metal as gravity sensing means, situated
9 about one or more axes;

10

11 a microprocessor, that receives inputs from the said tilt sensor(s),
12 translates them into expressions of angular measurement and
13 outputs the results for display, computation, or extraction, and
14 computes and generates a simulated curved-tube, bubble-level
15 display; and

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17 a unitary means of essentially rigidly mounting components, said
18 means comprising, but not limited to, a case or a frame.

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